CARGILL
SALT DIVISION

Box 696
Watkins Glen, NY 14891

CARGILL SALT

August 24, 1989

Mr. Dermott Courtney
Underground Injection Control Section
US Environmental Protection Agency/Region II
26 Federal Plaza
New York, New York 10278

Dear Mr. Courtney:

Enclosed please find a report by Mr. Larry Sevenker together with EPA Form 7520-3 (6-83), Part III: Mechanical Integrity of Existing Wells.

Basis the results of the test work performed and the enclosed results, I am requesting a modification of our UIC Permit #NYU 105431. The request is to increase the injection pressure limit on gallery 15-17 to the 430 psi test pressure maintained during M.I.T.'s in June.

Continuing the permit pressure on gallery 13-14-16 @ 350 psi should present no current operating problems. We were not able to develop the desired 450 psi pressure on this gallery within a reasonable time and chose to return the gallery to production operations with an M.I.T. @ 346 psi.

May I please be advised, at your convenience, of the modification to the permit. Thank you for your and the Agency's cooperation and assistance.

Sincerely,

CARGILL, INCORPORATED

JOE N. PINKHAM
Plant Manager

JNP:mnb
Encs.
cc: Mr. Walter B. Andrews, Chief
US Environmental Protection Agency
Region II/Ground Water Branch
26 Federal Plaza
New York, New York 10278

Mr. Randy Nemecek, Regional Minerals Manager
NYS Department of Environmental Conservation
PO Box 57
Avon, New York 14414

LARRY SEVENKER

Consulting Engineer

4148 LOIRE DR.
KENNER, LA. 70065

(504) 468-1909

June 20, 1989

Mr. Joe Pinkham
Cargill, Inc.
518 East Fourth Street
Watkins Glen, NY 14891

RE: Mechanical Integrity Testing

Dear Joe:

Mechanical integrity tests were conducted on the two galleries at the Watkins Glen plant June 12, 1989 and both galleries held the pressure test for one hour. Testing was conducted after logging and perforating in the gallery wells. Another test is to be scheduled after work-over operations are complete in well 15.

Gallery wells 15-17 were pressurized with the plant pump. Water was injected into well 15 while the valves were closed on the brine production well 17. Due to the relatively small cavity in the gallery wells 15-17, the system was pressured to 434 psi as the pump dead-headed after a short time period. The wells were closed in and allowed to stabilize. At 12:00 a.m. on June 10 well 15 was holding a constant water pressure of 430 psi. A constant pressure of 430 psi was held for 8 hours with 0 psi pressure loss.

The dead weight tester was placed on well 17 at 10:30 a.m. June 12, 1989 while the gallery was still pressurized. Well 17 was the brine production well of the gallery and the test pressure was lower due to it's containing saturated brine. A pressure of 241 psi was measured for 1 hour with 0 psi pressure loss. The casing in well 17 was at 2260' and was tested at 241 psi (brine .52 psi/ft). This would equate to a 438 psi (water .433 psi/ft). This measurement compares very well with the test pressure at well 15 in the gallery. The rental test pump was not connected to the gallery wells 15-17 since rework would be scheduled on well 15 and re-testing would be again necessary.

The rental test pump was moved to well 13 for the well 13-14-16 gallery test. All wells of the gallery would be pressured under water pressure by injecting water in well 13, which was the brine production well for the gallery. The 13-14-16 well gallery is rather large and requires a long time to pressure to 450 psi. With both the plant pump and the test pump running, it required 5 hours of pumping to increase the system pressure from 240 psi to 346 psi. This indicated that an additional 5 or more hours would be required to raise the pressure to 450 psi. Due to the large cavity and the need to maintain the

brine supply to the plant, the pumps were turned off to start the cavity test at a lower test pressure.

When both galleries are operational and can provide for the brine requirements of the plant, raising the cavity test pressure to 450 psi would be possible. After the work-over of well 15 to clean out the perforations and open the access to the cavity again, it may not be necessary to operate with the high injection pressures of past operations in the 15-17 gallery.

The mechanical integrity test of the 13-14-16 gallery was conducted at 9:10 p.m. on June 12, 1989 at a pressure of 340 psi. The test held at 340 psi with a 0 psi loss in 1 hour.

Although the tests were conducted at a pressure lower than the desired 450 psi test pressure, both galleries held their cavity pressure tests with 0 psi drop for a minimum of 1 hour or longer. The test results indicate the pressure tightness of the well casings, casing cement and the cavity of the galleries. The length of time to develop a test pressure of 450 psi in a large cavity is considerable. With the tubing and packer method, the casings can be tested at higher pressures with minimal of pumping. Only the well casings are tested with this method.

I plan to be in Watkins Glen to conduct sonar surveys and the work-over of well 15 later this week and early next week. The work-over of well 15 should indicate the need to raise the test pressure above the pump capabilities or maintain the present maximum test pressure.

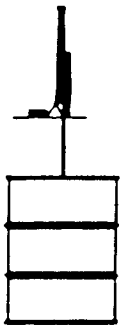
If you have any questions or comments, please contact me.

Sincerely,

Larry Sevenker
Consulting Engineer

Attachments

cc Steve Ketchum



LARRY SEVENKER

Consulting Engineer

4148 LOIRE DR.
KENNER, LA. 70065

(504) 468-1909

MECHANICAL INTEGRITY TEST
PRESSURE TEST

June 20, 1989

Company: Cargill, Inc.
Address: 518 East Fourth Street
Watkins Glen, NY 14891

Contact: Mr. Joe Pinkham / Mr. Steve Ketchum
Phone: (607) 535-2411
Test Conducted By: Larry Sevenker
Test Date: June 12, 1989
Test Location: Well 17
Type Test: Cavity Hydro Test
Gallery Wells Tested: #15 & #17
Fluid In Well: #17 - Brine, #15 - Water

		Pressure Recordings		
Time	Dead Wt Tester psi	Pressure Gauge psi	Pressure Recorder psi	Remarks
10:35 A.M.	235	245	241	Start Test
11:35 A.M.	235	245	241	Complete Test
Change	0 psi	0 psi	0 psi	

Test Results: Well #17 was tested with a dead weight brine pressure of 235 psi for 1 hours with a 0 psi change during the test. (235 psi with brine equates to 432 psi water for a casing open to the cavity at 2260')

Pressure Test Report

Larry Sevenker
Consulting Engineer
Date: 6-20-89

LARRY SEVENKER

Consulting Engineer

4148 LOIRE DR.
KENNER, LA. 70065

(504) 468-1909

MECHANICAL INTEGRITY TEST
PRESSURE TEST

June 20, 1989

Company: Cargill, Inc.
Address: 518 East Fourth Street
Watkins Glen, NY 14891

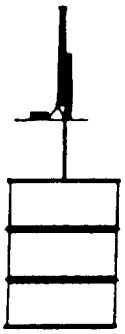
Contact: Mr. Joe Pinkham / Mr. Steve Ketchum
Phone: (607) 535-2411
Test Conducted By: Larry Sevenker
Test Date: June 12, 1989
Test Location: Well 13
Type Test: Cavity Hydro Test
Gallery Wells Tested: #13, #14, & #16
Fluid In Well: #13 - Water, #14 - Water, & #16 - Water

	Pressure Recordings			
Time	Dead Wt Tester @ 13 psi	Pressure Gauge @ 13 psi	Pressure Recorder @ 13 psi	Remarks
9:10 P.M.	340	345	336	Start Test
10:10 A.M.	340	345	336	Complete Test
Change	0 psi	0 psi	0 psi	

Test Results: Well #13, #14, & #16 were tested with a dead weight water pressure of 340 psi for 1 hours with a 0 psi change during the test. (Chart @ #14 was 350 psi & chart @ #16 was 340 psi during the test.)

Pressure Test Report

Larry Sevenker
Consulting Engineer
Date: 6-20-89



LARRY SEVENKER

Consulting Engineer

4148 LOIRE DR.
KENNER, LA. 70065

(504) 468-1909

MECHANICAL INTEGRITY TEST
PRESSURE TEST

June 20, 1989

Company: Cargill, Inc.
Address: 518 East Fourth Street
Watkins Glen, NY 14891

Contact: Mr. Joe Pinkham / Mr. Steve Ketchum
Phone: (607) 535-2411
Test Conducted By: Larry Sevenker
Test Date: June 10, 1989
Test Location: Well 15
Type Test: Cavity Hydro Test
Gallery Wells Tested: #15 & #17
Fluid In Well: #17 - Brine, #15 - Water

		Pressure Recordings		
Time	Dead Wt Tester psi	Pressure Gauge psi	Pressure Recorder psi	Remarks
12:00 A.M.	430	435	430	Start Test
9:00 A.M.	430	435	430	Complete Test
Change	0 psi	0 psi	0 psi	

Test Results: Well #15 was tested with a dead weight water pressure of 430 psi for 9 hours with a 0 psi change during the test.

Pressure Test Report

Larry Sevenker
Consulting Engineer
Date: 6-20-89

Please type or print | Please read instructions on reverse. | Approval expires 10-31-84

US ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF DRINKING WATER
WASHINGTON, DC 20460

EPA

UIC ANNUAL FEDERAL REPORTING SYSTEM

PART III: MECHANICAL INTEGRITY OF EXISTING INJECTION WELLS

(This information is collected under the authority of the Safe Drinking Water Act)

I. DATE PREPARED (Mo, day, year)	II. STATE	III. REGION
6-20-89	NY	

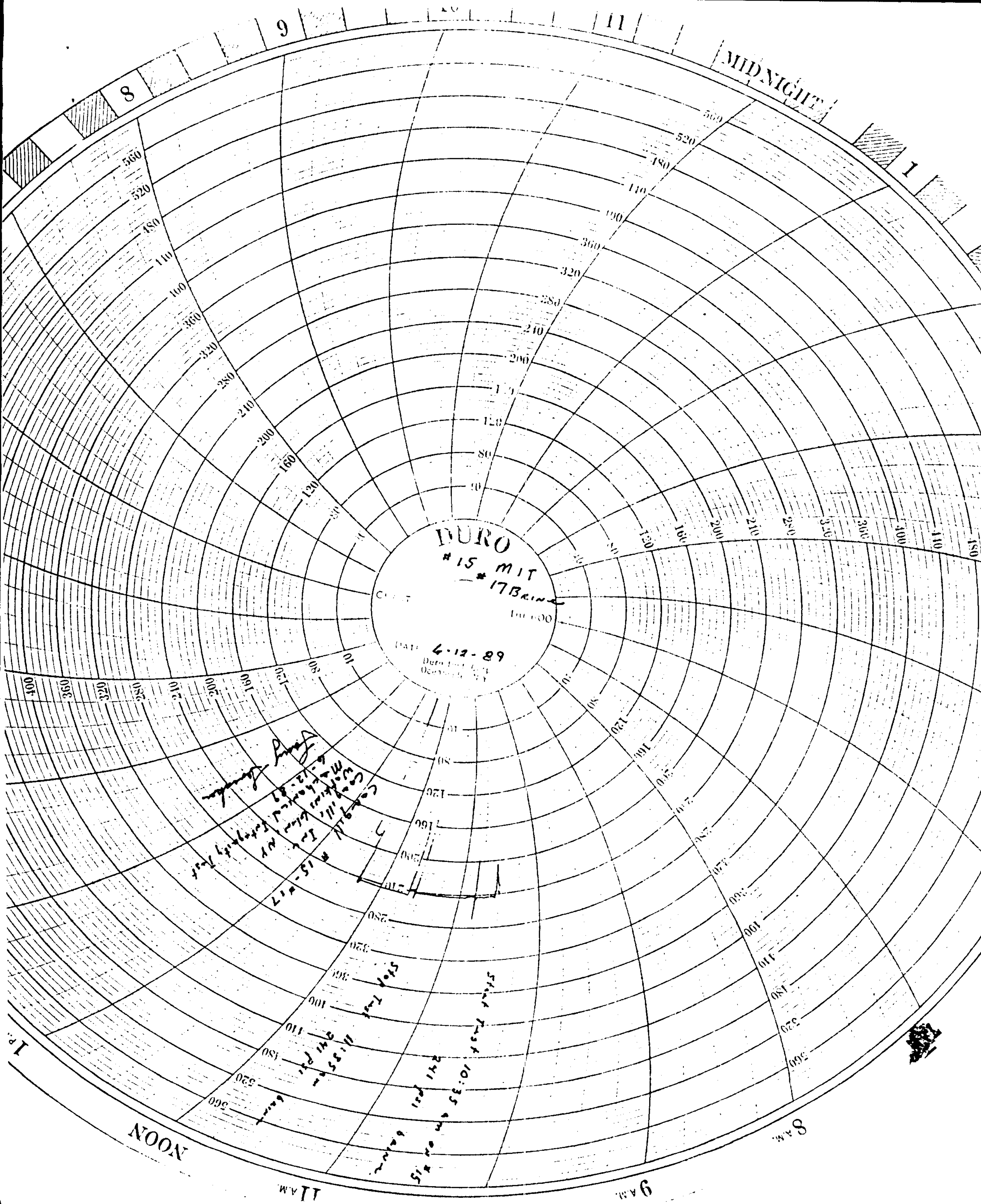
IV. REPORTING AGENCY	V. REPORTING PERIOD (Mo, year)	
Cargill, Inc.	FROM 6-89	TO 6-90

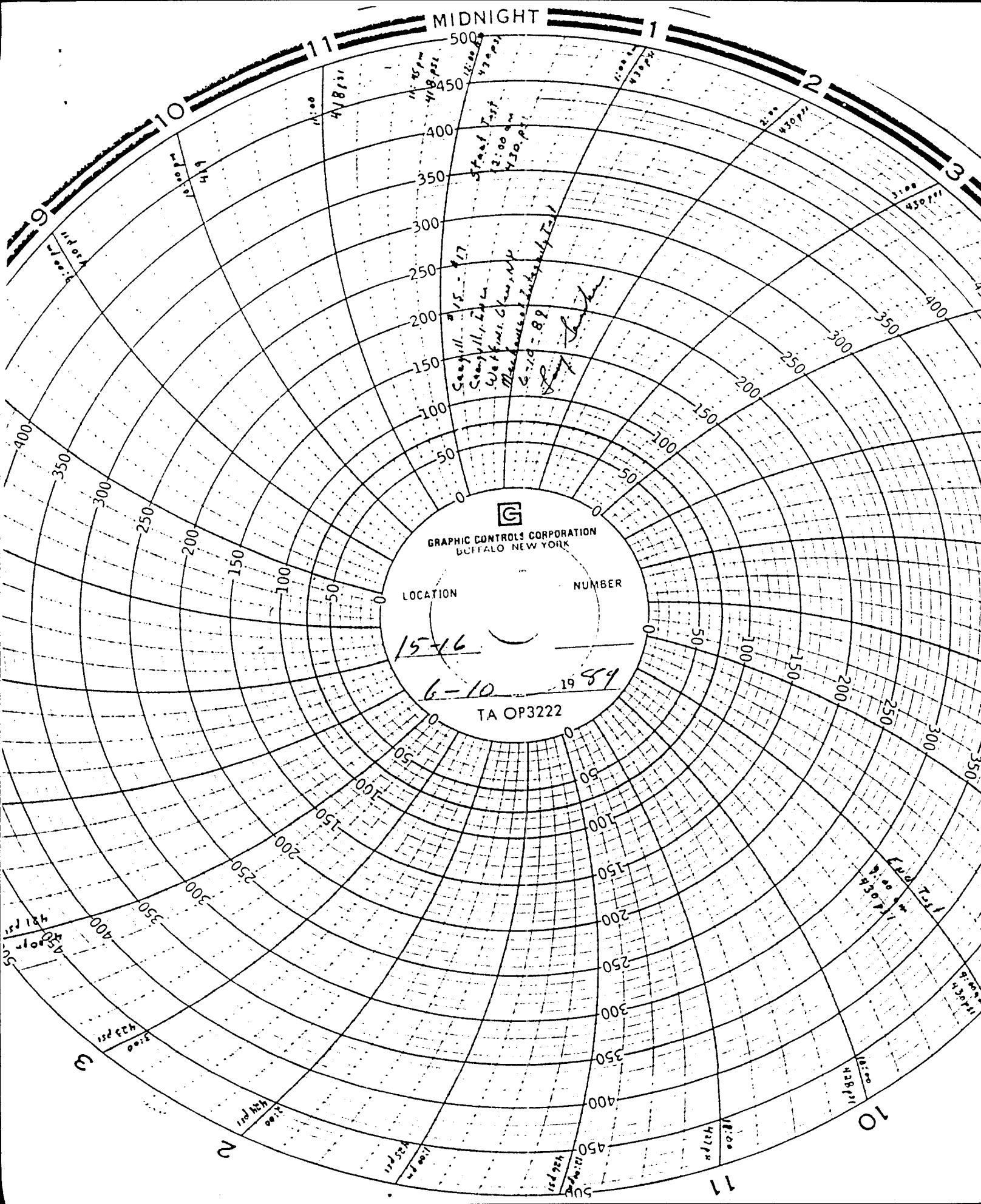
ITEM					CLASS AND TYPE OF INJECTION WELLS				
					I	II			III
						SWD 2D	ER 2R	HC 2H	
VI. NUMBER OF EXISTING WELLS TESTED FOR MECHANICAL INTEGRITY				Deficiency					0
				Total					5
VII. MECHANICAL INTEGRITY TESTING	(1) TEST OF SIGNI-FICANT LEAK	A. Annulus Pressure Monitoring		Deficiency		[redacted]	[redacted]	[redacted]	NA
				Total		[redacted]	[redacted]	[redacted]	NA
		B. Casing/Tubing Pressure Test		Deficiency		[redacted]	[redacted]	[redacted]	0
				Total		[redacted]	[redacted]	[redacted]	5
		C. Monitoring Records Reviewed		Deficiency	[redacted]	[redacted]		[redacted]	[redacted]
				Total	[redacted]	[redacted]		[redacted]	[redacted]
		D. Other Tests (Specify) well& cavity		Deficiency					0
				Total					5
		E. Number of Wells Witnessed for Mechanical Integrity							0
	(2) TEST OF FLUID MOVE-MENT	F. Cementing Record Reviews		Deficiency	[redacted]				0
				Total	[redacted]				5
		Field Tests	G. Temperature Log	Deficiency		[redacted]	[redacted]	[redacted]	0
				Total		[redacted]	[redacted]	[redacted]	0
			H. Noise Log	Deficiency		[redacted]	[redacted]	[redacted]	0
				Total		[redacted]	[redacted]	[redacted]	0
			I. Radioactive Tracer Log	Deficiency		[redacted]	[redacted]	[redacted]	0
				Total		[redacted]	[redacted]	[redacted]	0
			J. Cement Bond Log	Deficiency		[redacted]	[redacted]	[redacted]	0
				Total		[redacted]	[redacted]	[redacted]	0
			K. Other Tests (Specify)	Deficiency					0
				Total					0
			L. Number of Wells Witnessed for Mechanical Integrity						2
VIII. REMEDIAL ACTION	A. Casing Repaired/Squeeze Cement								0
	B. Tubing/Packer Repaired								0
	C. Plugging/Abandonment								0
	D. Other Remedial Actions								0
	E. Number of Wells Receiving Remedial Action								0

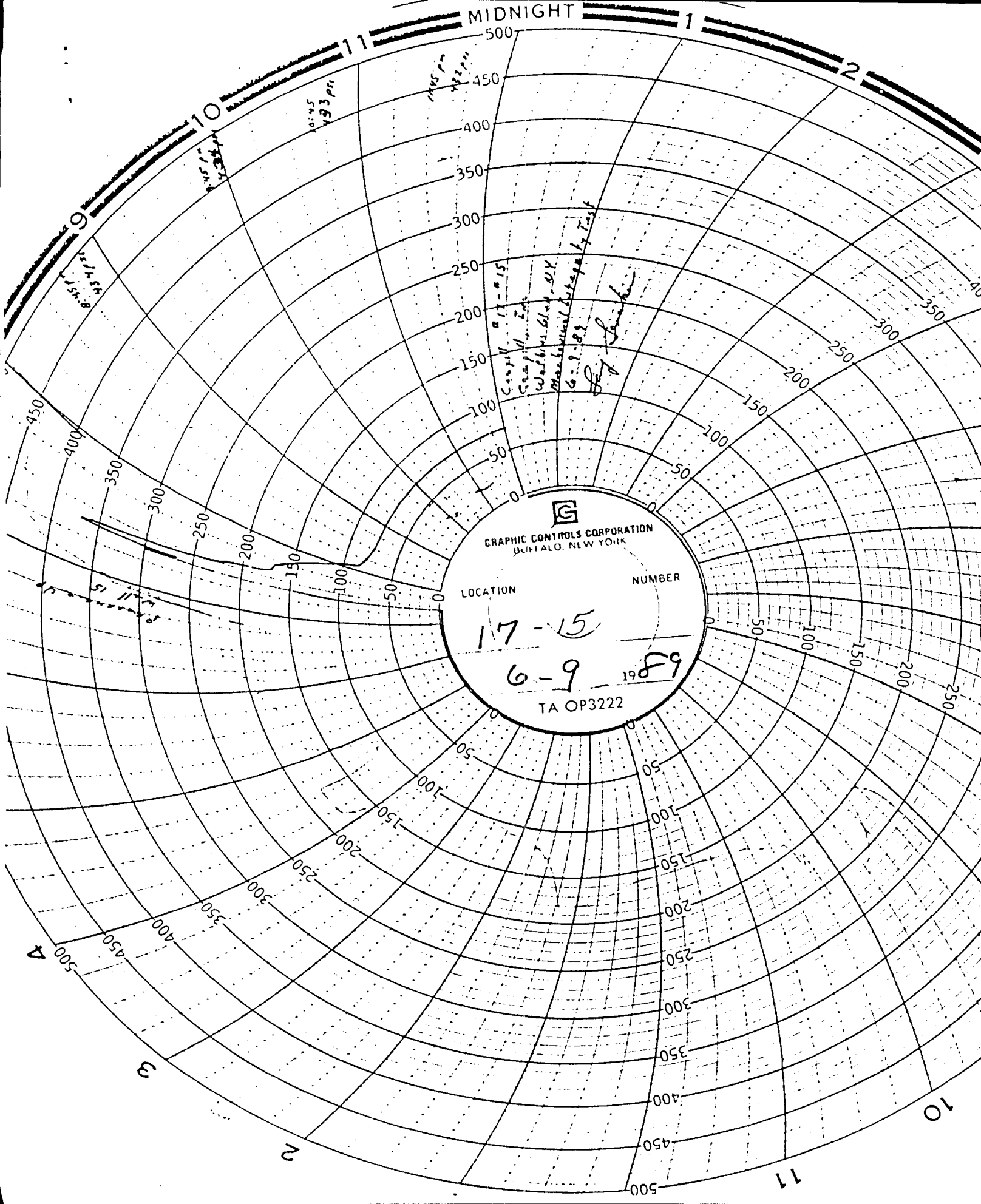
IX. REMARKS *(Attach additional sheets if necessary)*

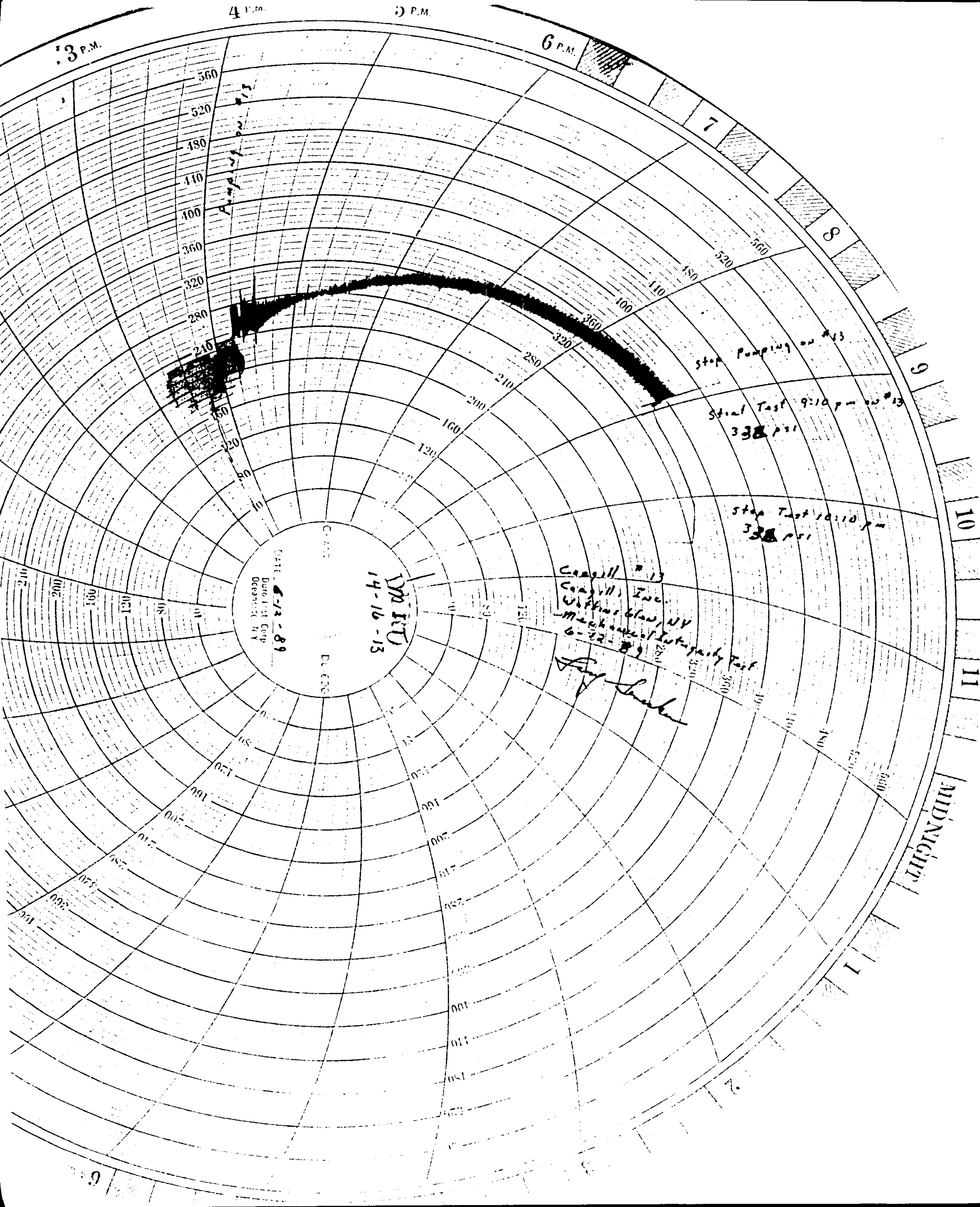
Five wells in two galleries were pressure tested with all wells holding.

EPA Form 7520-3 (6-83)


DURO
#15 MIT
#17 Brine
4-12-89
MIDNIGHT
NOON
8 A.M.
9 A.M.
11 A.M.
Start Test 10:35 am on #15
241 psi
Stop Test 11:35 am
241 psi
#15-#17
6-12-89


MIDNIGHT
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
LOCATION
NUMBER
15-16
6-10
1989
TA OP3222


MIDNIGHT
1
2
9
10
11
3
4
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
LOCATION
NUMBER
17-15
6-9 1989
TA OP3222



3 P.M.
4 P.M.
5 P.M.
6 P.M.
7
8
9
10
11
MIDNIGHT
1
2
Pumping on #13
Stop Pumping on #13
Start Test 9:10 pm on #13
33 psi
Stop Test 10:10 pm
33 psi
Cargill #13
Cargill, Inc.
Watkins Glen, NY
Mechanical Integrity Test
6-22-89
DATE 6-22-89
MIRU
14-16-13